Psychosocial Factor as a Determinant of Quality of Life in Diabetic Patients Attending an Outpatient Clinic in Lagos Nigeria

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Authors' contributions

Article Information

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ABSTRACT

Aim: The management of Diabetes Mellitus have been referred to as the most demanding of all chronic diseases. Due to this adjustment, patients are often faced with challenges which may confer a negative influence on their quality of life. Various psychosocial factors have been reported to affect the quality of life of patients with diabetes mellitus. The study aimed to determine the relationship between meaning in life, life satisfaction and social support, and quality of life in diabetic patients
Study Design: this is a cross-sectional study of the quality of life in patients with diabetes.
Place and Duration of study; Endocrine unit of Lagos university teaching hospital, Lagos Nigeria. The study was conducted between June and September 2016.
Methods: 239 participants were enrolled through a simple random sampling method, age range was between 25 and 90 years, 131 were male while 108 were female, most of them were married

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(n=222). Meaning of life scale, life satisfaction scale, Berling social support scale WHO quality of life scale and socio-demographic questionnaire were used in all participants. Data was analysed using a statistical package of social sciences.

Results: Educational level (r= -.148, p=.05), meaning in life (r=-.169, p=.05), life satisfaction (r=.391, p=.05) and social support (r=.276, p=.05) showed significant relationship with quality of life. Meaning in life, life satisfaction, and social support jointly accounted for 42.2% variance in quality of life among patients with diabetes mellitus, while the remaining 57.8% could be attributed to other factors.

Conclusion: The findings from the current study implies that meaning in life, social support, and life satisfaction plays an important role in the general wellbeing of a patient with diabetes mellitus.

1. INTRODUCTION

Diabetes mellitus is a worldwide health problem and one of the common chronic syndromes currently affecting individuals globally; regardless of socioeconomic status and geographical location [1].

The International Diabetes Federation in 2015 reported that about 415 million people have diabetes globally and that this figure may double by the year 2040 [2].The approximate prevalence of diabetes in Africa is 1% in rural areas, and 5% to 7% in urban sub-Saharan Africa [3]. In 2013, Nigeria had the highest number of people living with diabetes in Africa (3.9 million), highest burden of diabetes in Africa and with a recorded annual death of about 105,091 [1].

The management of Diabetes Mellitus requires several adjustments in patient's lifestyle (a strict daily regimen of medication, exercise, diet etc) and have been referred to as the most demanding of all chronic diseases in terms of management [3,4,6]. Due to these adjustments, patients are often faced with behavioral and psychological challenges which may confer a negative influence on their quality of life [2,5].

World Health Organization (WHO) defines Quality of life (QoL) as an individual's perception of life in the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. It is a broad concept affected in complex ways by the person's physical health, psychological state, level of independence, social relationships, and relationships salient to their environment" [6]. Most previous studies agree that the quality of life (QoL) of patients with diabetes is worse than that of the general population [7].

Quality of life is tied to the perception of 'Meaning in life'. The quest for meaning in life is central to the human condition, and humans are brought in touch with the sense of meaning when they reflect on what they have created, loved, believed in or left as a legacy [8]. Meaning has been associated with superior levels of hedonic well-being, as demonstrated by positive correlation with happiness and life-satisfaction [9,10,11,12]. Additionally, Meaning in life may also enhance the quality of life by motivating people's involvement in activities that promote social integration and the quality of social relationships. Several studies have reported the positive effect of meaning in life on quality of life [9,13,14,15].

Life satisfaction is an overall assessment of feeling and attitude towards life at a particular point of time, it is a subjective process of life perception and evaluation. Previous studies have shown that level of life satisfaction is a good predictor of quality of life in individual with diabetes mellitus. [16,17,18], although this was reported to be majorly influenced by community involvement in management of elderly with diabetes mellitus [19]

Different researchers have shown that various types of social support are beneficial for health. Good Social support increases quality of life and sense of quality of life in struggling with chronic illness [20]. It lowers the tension caused by stress, the approaching death of their own or their loved ones [21]. Support allows proper and satisfactory paternal role performance such as being a father. Therefore, to be an important interpersonal relationships factor in shaping life satisfaction. The satisfaction with the interpersonal relationships especially within married couples and relationships with friends takes the highest or nearly the highest place among the conditions for happiness [7,22], social

support has been shown to improve adherence to medication and as such improve patient wellbeing and quality of life [23].

Previous studies have documented various factors such as life style, socio-demographic factors and social economic status as influence on quality of life in diabetic patients', however there is a gap in knowledge on the effect of meaning in life, perceived life satisfaction and perceived social support on perceived quality of life in sub-Saharan Africa. The aim of this study is to examine the relationship between these psychosocial factors (meaning in life, perceived life satisfaction, and perceived social support) and perceived quality of life among patients with diabetes mellitus.

2. METHODOLOGY

2.1 Research Design

This is a cross sectional study about the quality of life in patients with diabetes.

2.2 Settings

The research was conducted at the Endocrinology unit of the Lagos University Teaching Hospital (LUTH), Idi-araba Lagos State, Nigeria, with a twice a week clinic days. The study was conducted between June and September 2016.

2.3 Participants

The sample size consisted of two hundred and thirty-nine (239) participant that were clinically diagnosed of Diabetes Mellitus and with no other known clinical condition

2.4 Ethical Approval

Ethical approval was obtained from the Health Research Ethics Committee of Lagos University Teaching Hospital. While informed consent was obtained from each participant after they had been adequately informed about the nature, extend, purpose and benefits of the study.

2.5 Instruments

A structured paper and pencil questionnaire was adopted for data collection in the study. The questionnaire was divided into five sections and they are as follow;

2.5.1 Demographic variables

The questionnaire consists of eight items that seek information on the respondents' demographic background which includes age, gender, marital status, occupation, religion, and educational qualification.

2.5.2 Meaning in life scale (MLQ)

The Meaning in Life scale was developed by Michael Steger, Patricia Frazier, Shigehiro Oishi and Matthew Kaler in 2005. It has 10 items scored on a 7 point likert format of absolutely true to absolutely untrue. The MLQ has internal reliability coefficient of .90s (Steger, Frazier, Oishi & Kaler 2006).

2.5.3 Life satisfaction scale

The Satisfaction with Life Scale was developed by Ed Diener in 1985.It has 5 items and each item is scored on a likert format with scores ranging from 1 to 7. It has a test retest reliability of 0.82, and internal consistency ranged from .57 to .75 (α =0.87).

2.5.4 Berling social support scale

Berlin Social Support Scale was developed by Schulz & Schwarz (2004). It has six subscales which are Perceived available support, Need for support, Support seeking, Actual received support, provided support and Protective buffering. The Cronbach Alpha for internal consistency for the subscales are as follows, Perceived available support 0.83, Provided social support 0.75, Need for social support 0.83 and Protective buffering 0.82. The test retest reliability for this scale was .82 and the cronbach alpha was (α =0.72)

2.5.5 Quality of life scale (WHOQOL-BREF)

The scale was developed by World Health Organization Group WHOQOL, (2002). It consisted of 26 items reflecting the 5-point likert-type format. The scale produced six domain scores, that includes Physical (item 3, 4, 14 and 21), Psychological (item 6, 11, 15, 24 and 31), Level of Independence (items 5, 22, 23, and 20), Social Relationships (item 27, 26, 25, and 17), Environment (item 12, 13, 16, 18, 19, 28, 29, and 30), and Spirituality (item 7, 8,9 and 10), while item (1) measured overall quality of life and item (2) measured general health perception. The Test –Retest Reliability of

the scale was 0.99 while in this study the Cronbach alpha was 0.74 in a sample of elderly persons.

2.6 Procedure

Two hundred and thirty-nine (239) Participants who meet the inclusion criteria were recruited into the study through a simple random sampling technique. The participants were duly enlightened about the research with a written inform consent taken before the questionnaires were administered. They were assured of confidentiality and informed that their participation in the study was strictly voluntary. The questionnaires were filled by each participant with the guidance of the researcher.

2.7 Statistical Analysis

All data collected for this study was analysed using IBM SPSS. Strength of relationship between independent variables (meaning in life, life satisfaction and social support) and the dependent variable (quality of life) was analysed using a Pearson product moment correlation. A simple linear regression was used to analyse the influence of independent variable on the dependent variables, while a multiple regression analysis was used to determine the joint influence of the independent variables on the dependent variables.

3. RESULTS

The sample size consisted of two hundred and thirty-nine (239) that were clinically diagnosed of Diabetes Mellitus. The age of the sample ranged between 25 and 90 years, there were more males (N=131, 54.8%) than female (N=108, 45.2%). Eight (3.3%) of the participants were single, 222 (92.9%) were married while 9 (3.8%) were either divorced or separated at the time of the study.

Thirty (12.6%) of the participants had completed their secondary school, 135 (56.5%) had B.Sc., 48 (20.1%) possessed a master's degree, 12(5.0%) and 14 (5.9%) possessed other educational qualifications not stated. Besides, 107 (44.8%) were Christians, 114 (47.7%) were Muslims while 10 (4.2%) were Traditional worshippers who. Participated in the study.

Table 1 shows the inter-variable relationship of the demographic variables, meaning in life, life

satisfaction and social support and quality of life. Age (r =.042, p=.05), Gender (r =.034, p=.05), Marital Status (r=.090, p=.05), Religion (r= -.047, p=.05) shows no significant relationship with quality of life while Educational level (r= -.148, p=.05), meaning in life (r=-.169, p=.05), life satisfaction (r=.391,p=.05) and social support (r=.276, p=.05) showed significant relationship with quality of life.

After a simple linear regression analysis, meaning in life has significant influence on the Quality of life of diabetes mellitus patient (β=-.169, t=-.2.65, p=.01). Meaning in life singly accounted for 16.9% variance in quality of life among patients' with diabetes mellitus (Table 2). Also, life satisfaction significantly influenced Quality of life (β=.391, t=6.549, p=.01) and accounted for 39.1% variance in quality of life among patients' with diabetes mellitus (Table 3) Similarly, social support had a statistically significant associated with Quality of life (β=.276, t=4.420, p=.01) and individually accounted for 27.6% variance in quality of life among patients' with diabetes mellitus (Table 4)

The multiple regression analysis shows that meaning in life, life satisfaction and social support jointly predicted quality of life (F (239) =16.960, R=.422 R^2 =.178, P=.01). This result shows that meaning in life, life satisfaction and social support jointly accounted for 42.2% variance in quality of life among patient with diabetes mellitus, while the remaining 57.8% could be attributed to other factors. (Table 5)

4. DISCUSSION

The result in the current study shows that educational level had a negative relationship with quality of life; meaning that the lower the level of educational achievement the higher the quality of life in patients with diabetes, this was however contrary to result reported in previous Nigerian study that reveal a positive relationship between quality of life and educational levels among diabetic patients, [7] and to findings from a study carried out in the United State of America which shows that level of education is less significantly related to health related quality of life [24]. The reason for the disparity between the current study and previous studies may be due to methodological differences and presence of complications of diabetes mellitus in patient used in previous studies.

Table 1. Correlation matrix showing the relationship among the study variables.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. **Age**	2.62	.60	1								
2. **Gender**	-	-	-.019	1							
3. **Marital status**	-	-	.064	-.035	1						
4. **Religion**	-	-	-.230**	.184**	-.045	1					
5. **Educational level**	-	-	-.017	-.270**	-.054	.155*	1				
6. **Meaning in life**	39.5	4.94	-.027	-.066	-.110	-.019	.044	1			
7. **Life satisfaction**	18.0	3.49	.082	-.007	.151*	-.066	.042	-.180**	1		
8. **Social support**	80.7	10.02	.130	-.001	.080	-.079	.019	-.191**	.392**	1	
9. **Quality of life**	52.2	7.09	.042	.034	.090	-.047	-.148**	-.169**	.391**	.276**	1

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).   N=239

Table 2. Simple linear regression showing predictions of meaning in life on quality of life

Variables	B	T	R	R^2	Df	F
Meaning in life	-.169	-2.65*	.169	.029	238	6.994**

*p=.01, **p=.05

Table 3. Simple linear regression showing predictions of life satisfaction on quality of life among diabetes mellitus patients'

Variables	B	T	R	R^2	Df	F
Life satisfaction	.391	6.549*	..391	.153	238	42.89*

*p=.01, **p=.05

Table 4. Simple linear regression showing predictions of social support on quality of life among patients with diabetes mellitus

Variables	B	T	R	R^2	Df	F
Social support	.276	4.420*	.276	.076	238	19.54*

*p=.01 **p=.05

Table 5. Multiple linear regression showing predictions of meaning in life, life satisfaction, quality of life, and social support on quality of life

Variables	B	T	R	R^2	Df	F
Meaning in life	-.086	-1.414				
Life satisfaction	.324	5.007[*]	.422	.178	235	16.960[*]
Social support	.133	2.045[**]				

[*]p=.01 [**]p=.05

Meaning in life and quality of life have been closely associated in terms of qualities related to how people express themselves and how they adapt to adversity as well as when they feel distressed, [15,25]. Empirical studies on meaning in life and quality of life in patient with chronic illness shows a significant relationship between these two variables [26]. Similarly, studies have shown a positive relationship between social support and quality of life [27,28,29]. In line with previous studies, the current study shows a significantly positive relationship between meaning of life and quality of life, and also between social support and quality of life. The finding from the current study supports the report that meanings of life may enhance the quality of life by motivating people's involvement in activities that promote social integration and the quality of social relationships, and that meaning in life is a predictor variable of quality of life [27]

In line with the report from previous studies, [19,28] the current study shows that life satisfaction have a statistically significant association with quality of life of diabetes patient. This study further affirm report from previous findings which shows that social support plays a major role in maintaining or disrupting Quality of Life in patient with chronic illness.

The current study shows that meaning in life, life satisfaction and social support jointly influence the quality of life among patient with diabetes mellitus. Though this is in line with previous study, [30] few studies however reported otherwise; a study carried out among in-patients with prostate cancer shows that psychosocial factors have no influence on quality of life. [31] Reason for this disparity may be due to the fact that the previous study was carried out among inpatient and or because it was done among patient with prostate cancer as compared with the current study that was done among clinic patients with diabetes.

5. CONCLUSION

The findings from the current study implies that meaning in life, social support and life satisfaction plays an important role in the general wellbeing of patient with diabetes mellitus, and for this reason should be well considered in the management of these group of patients. It is recommend that these factors should be duly assessed in all diabetes patient and adjusted appropriately. This also called for the need to include psychological treatment in the management of these group of patients

6. Limitations of the Study

Because the study was a cross-sectional study it will be difficult to determine causal relationship between dependent variable and independent variables. However the study has been able to bridge a gap in the existing knowledge.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard or university standard, written approval of Ethics committee has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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